QSC 18 | QUALYS SECURITY CONFERENCE 2018

Qualys Container Security

Comprehensive Security for the ever-changing Container Stack

Agenda

Container Advantages
Container Deployments
Visibility & Control Challenges
Qualys Container Security Solution
Demo
Q&A

Everybody Loves Containers

Portability

Agility

Density

Container Deployments

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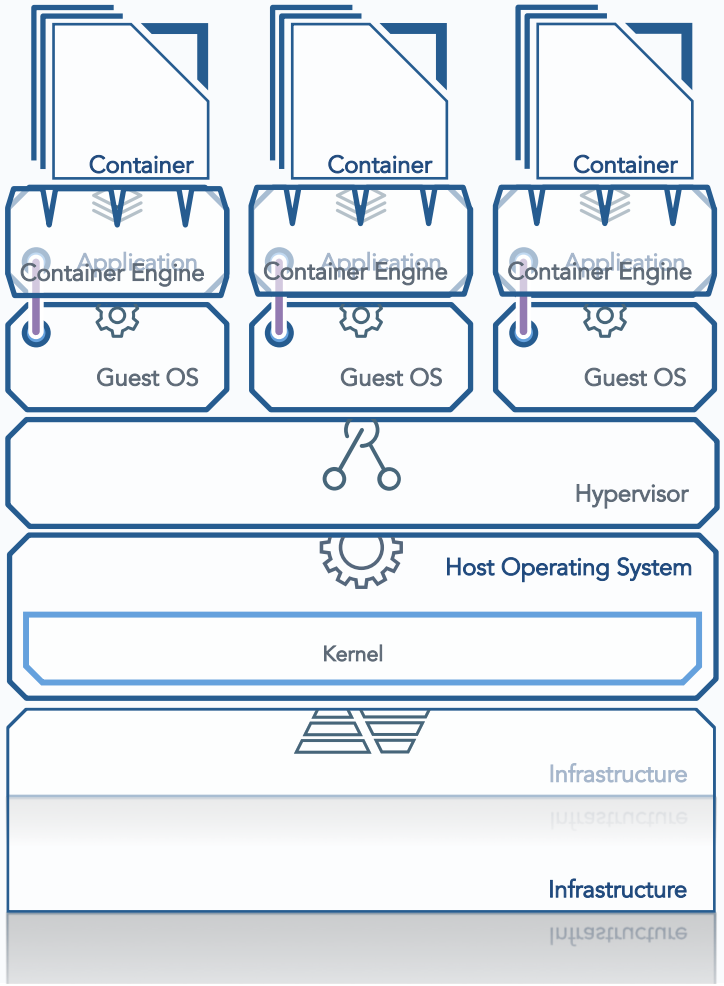
Deployment Scenario #1

Use Case

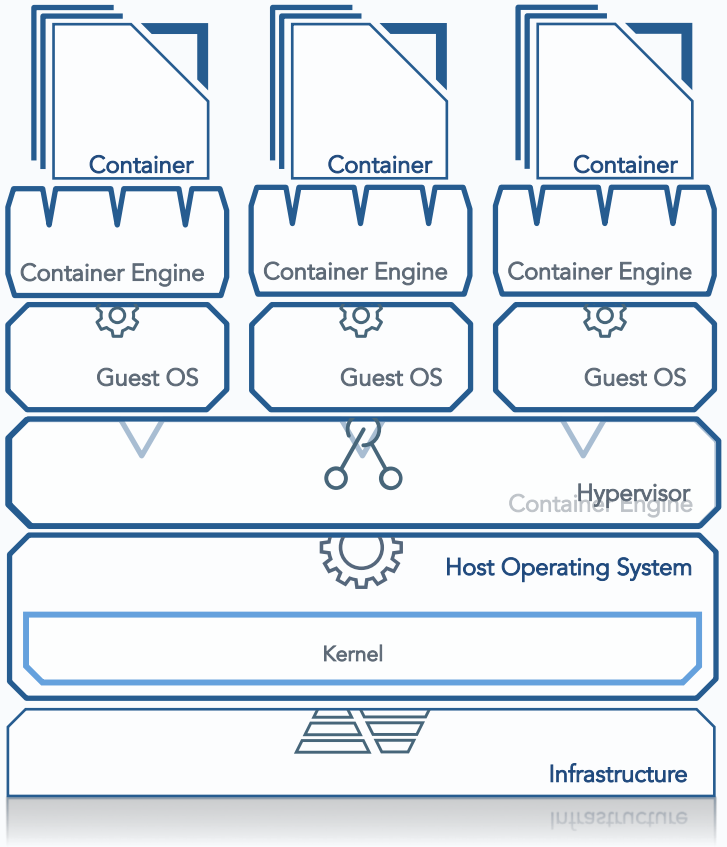
1. Shrinking infrastructure, as organizations continue migration to the cloud
2. Containers deployed within Virtual Machines
3. But organizations still have the overhead and costs of the hypervisor and virtual machines



Deployment Scenario #2

Use Case

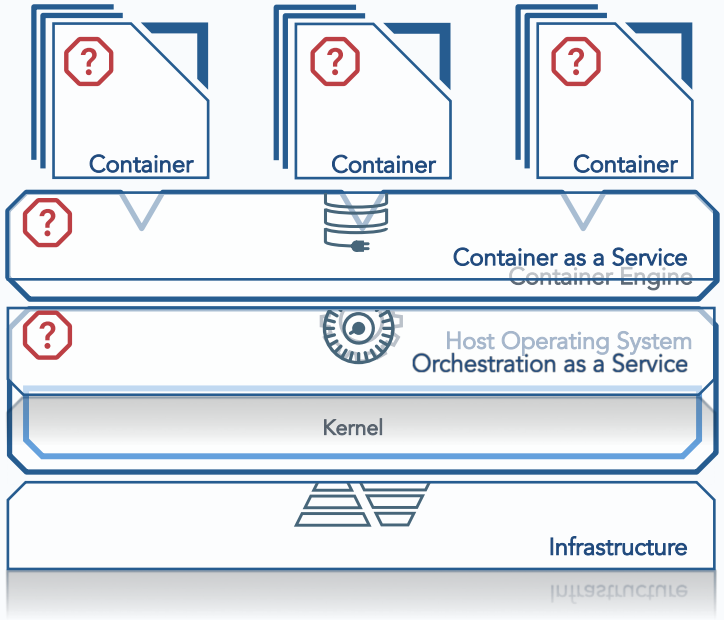
1. The orchestration battle ends with Kubernetes winning 80% of the market
2. But organizations struggle to scale their own Kubernetes clusters



Deployment Scenario #3

Use Case

1. Container-as-a-Service and Orchestration-as-a-Service adoption accelerate container adoption
2. Now where do you put security?



Container Visibility & Security Challenges

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Container Lifecycle Challenges

Container Images

Container Registry

Container Instances
Infrastructure

Build

What's in the images?

Vulnerabilities?

OSS license exposure?

Solution disruptive to my CI Pipeline?

Scanning report integrated with bug tracking?

Ship

Registry scanning?

Enforce compliance?

Vulnerability, package and license-based rules?

Vulnerability impact notifications?

Run

How to protect host?

Container engine configured correctly?

Container orchestration configured correctly?

Runtime app visibility?

Runtime app protection?

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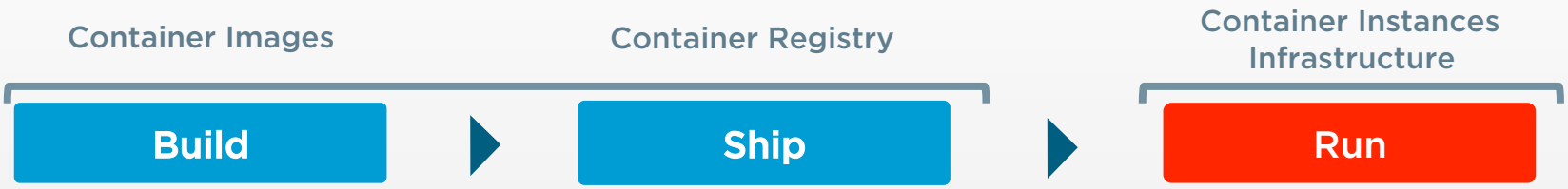

Software Composition

Vulnerability Analysis

OSS License Analysis

Integration with CI Pipelines

Bug Tracking Integration

Registry Scanning

Compliance Controls

Vulnerability, Package and License-based Rules

Real-time Vulnerability Impact Notifications

Host Protection

Container Engine Benchmarking

Container Orchestration Benchmarking

Deep Runtime Visibility

Runtime Protection

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Host Protection

CIS Benchmarks

Protection for container infrastructure stack

Scanning & Compliance

Accurate insight and control of container images

Visibility & Protection

Automated analysis and enforcement of container behavior

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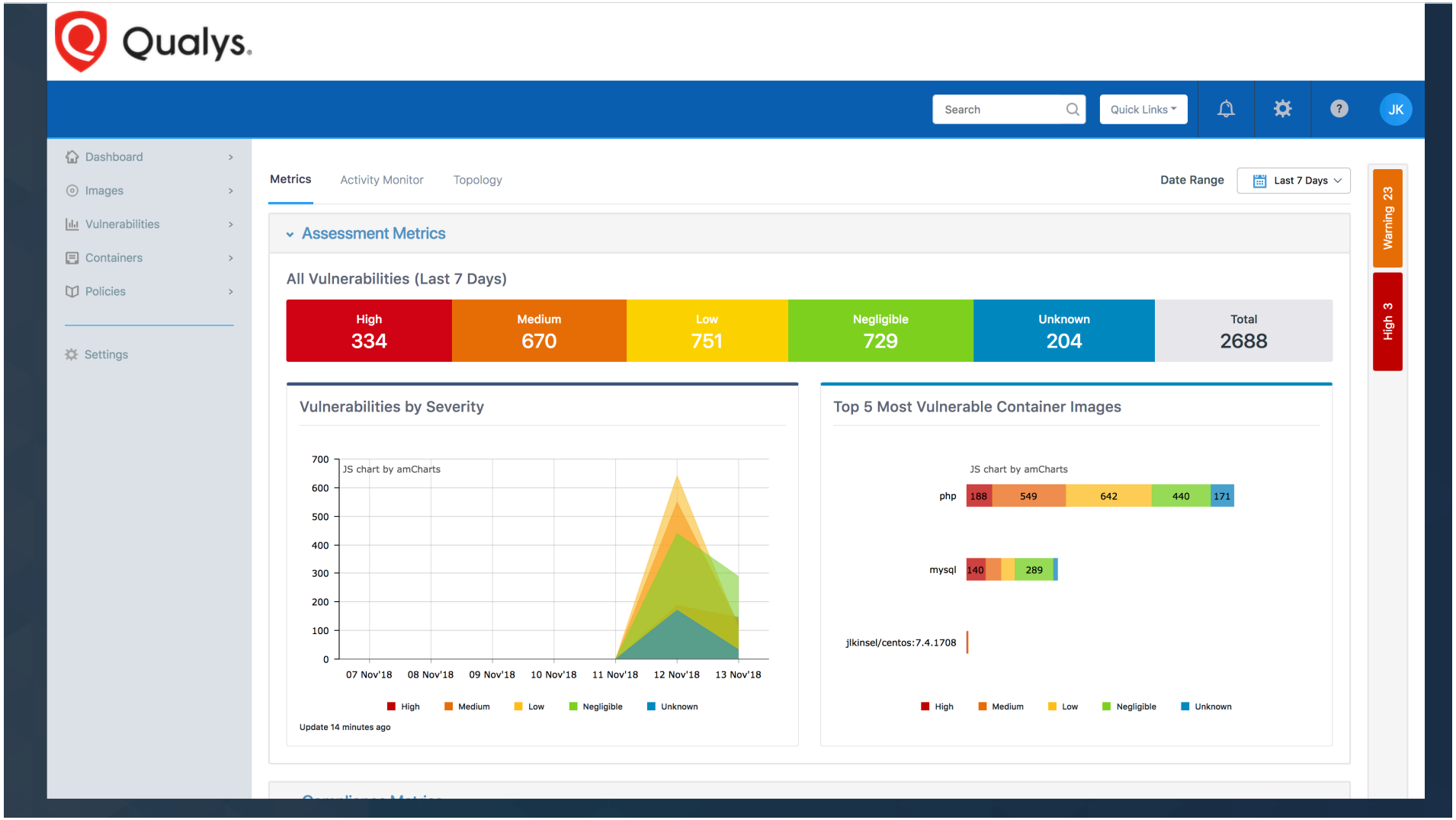
Demo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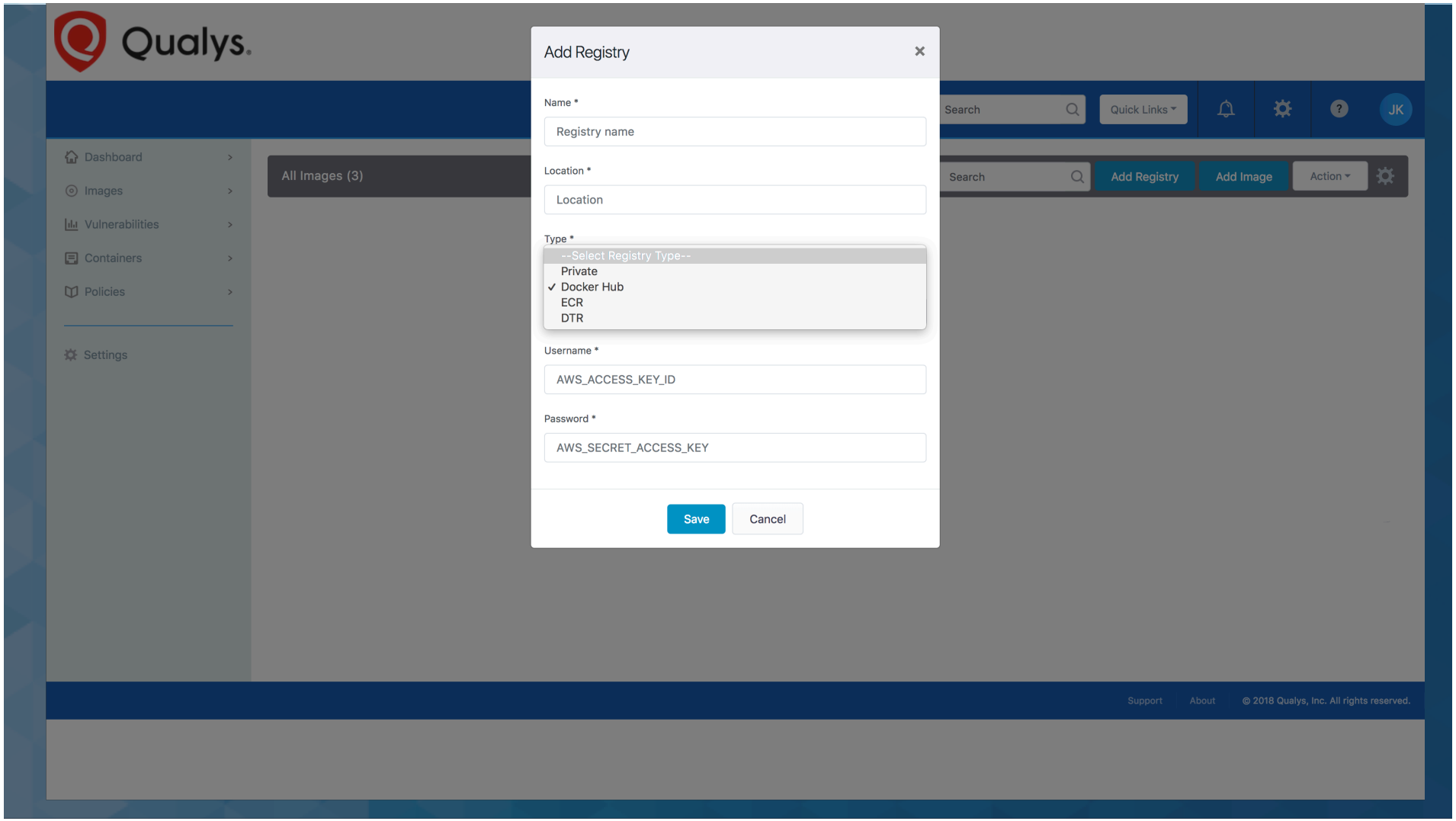
High 334
Medium 670
Low 751
Negligible 729
Unknown 204
Total 2688
Vulnerabilities by Severity
JS chart by amCharts
700
600
500
400
300
200
100
0
07 Nov'18
08 Nov'18
09 Nov'18
10 Nov'18
11 Nov'18
12 Nov'18
13 Nov'18
High
Medium
Low
Negligible
Unknown
Update 14 minutes ago
Top 5 Most Vulnerable Container Images
JS chart by amCharts
php
188
549
642
440
171
mysql
140
289
jlkinsel/centos:7.4.1708
High
Medium
Low
Negligible
Unknown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Add Image
Action
Add Registry
Name *
Registry name
Location *
Location
Type *
--Select Registry Type--
Private
Docker Hub
ECR
DTR
Username *
AWS_ACCESS_KEY_ID
Password *
AWS_SECRET_ACCESS_KEY
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Cancel
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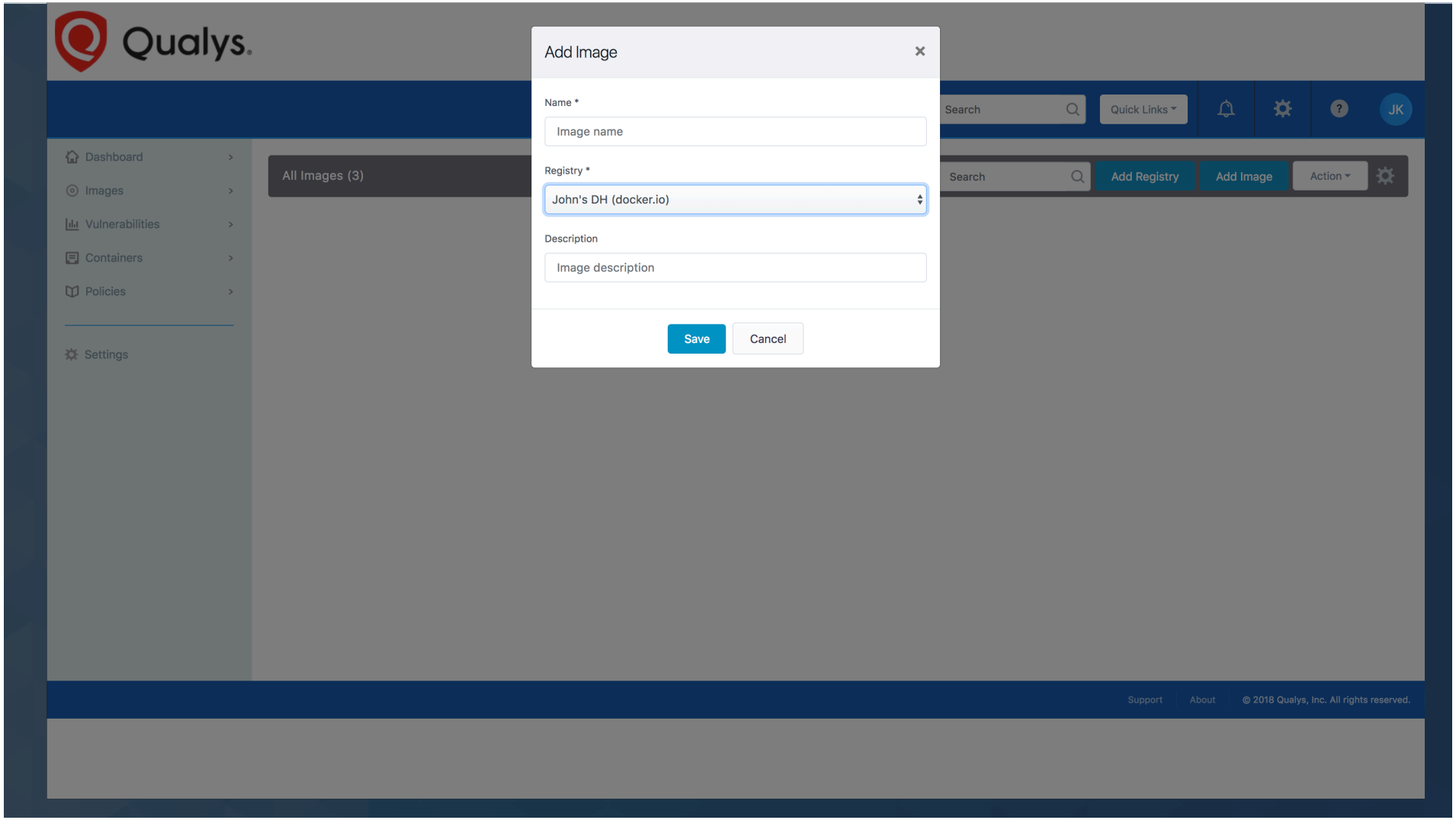
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Registry *
John's DH (docker.io)
Description
Image description
Save
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- Policies
- Settings

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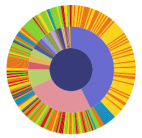
php
Scan Status: done
Instrumentation Status: Not Instrumented

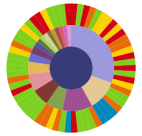


Actions

jlkinsel/centos:7.4.1708
Scan Status: done
Instrumentation Status: Active

Actions

mysql
Scan Status: done
Instrumentation Status: Not Instrumented



Actions

Records per page 10

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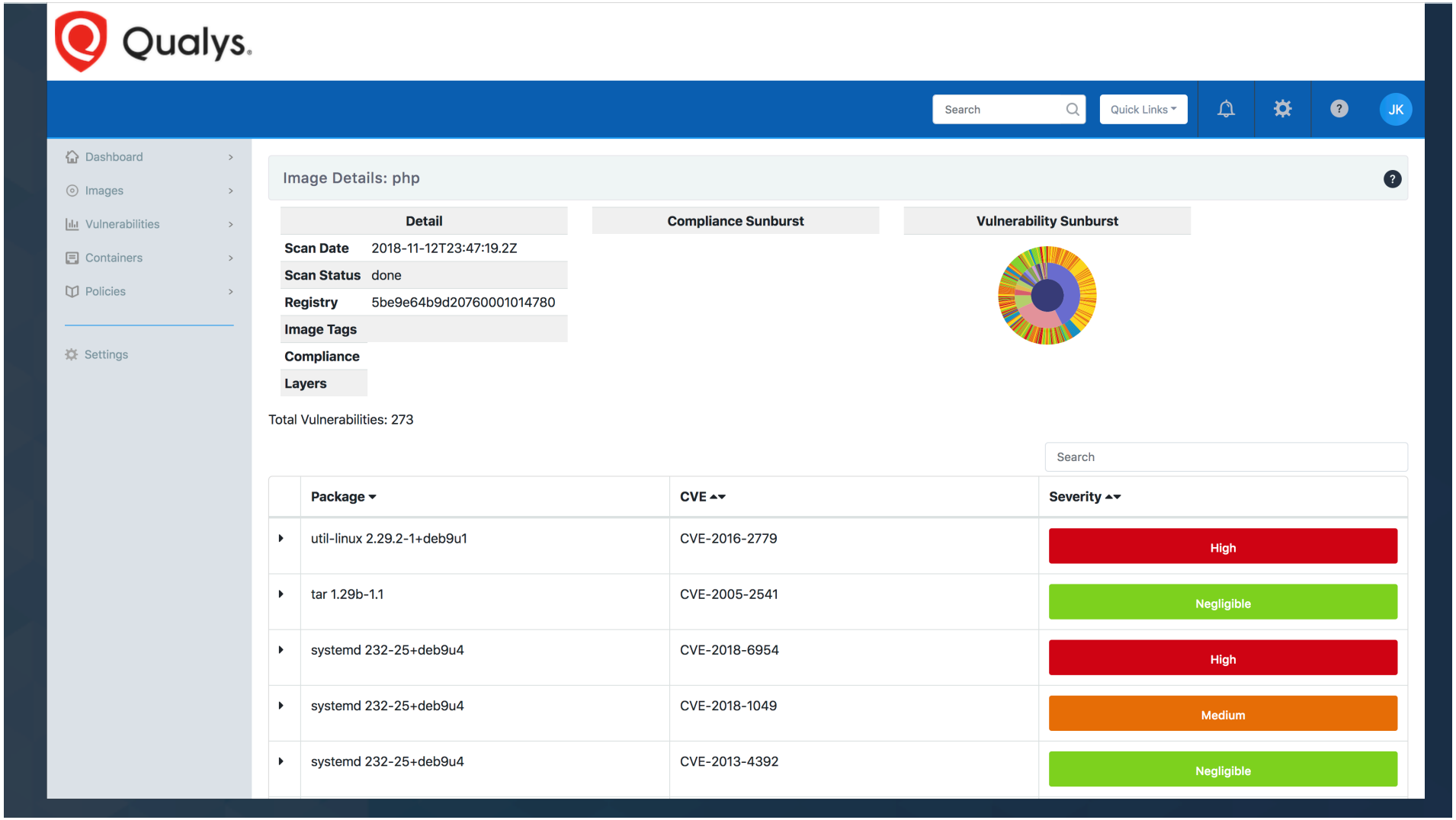
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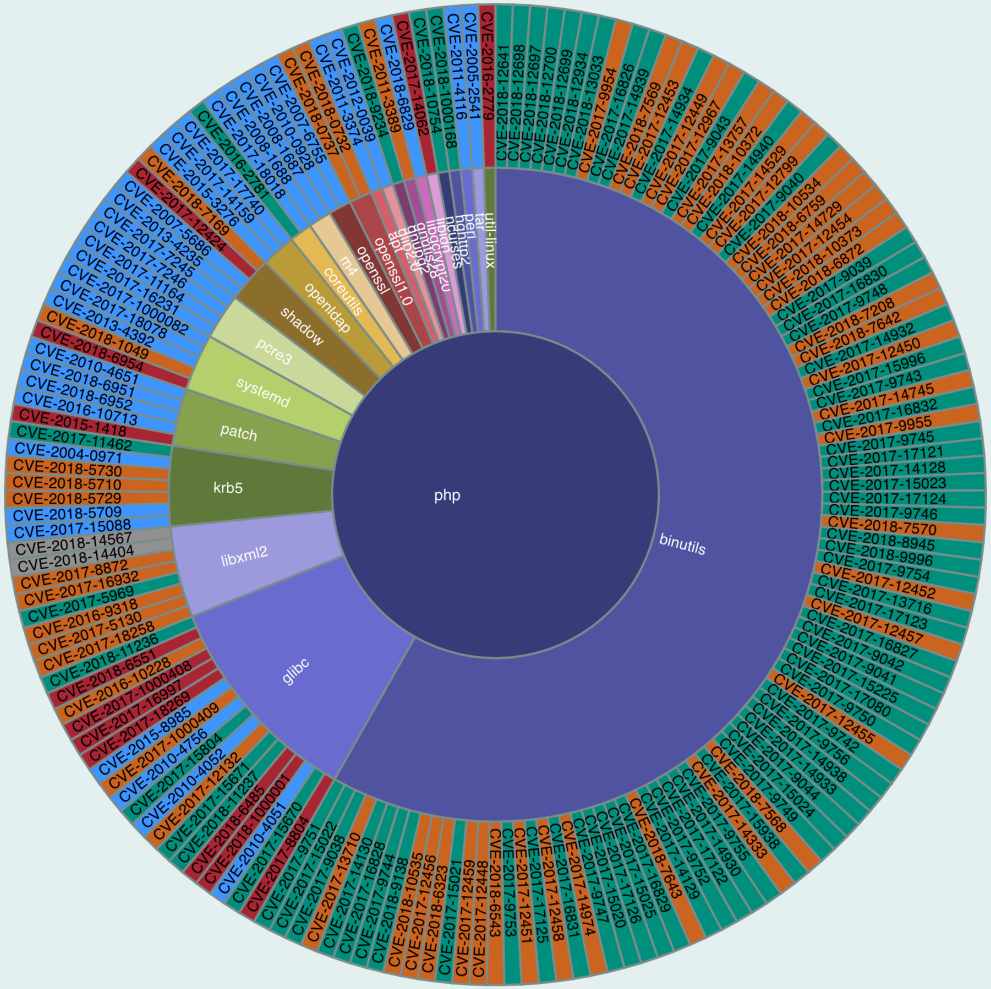
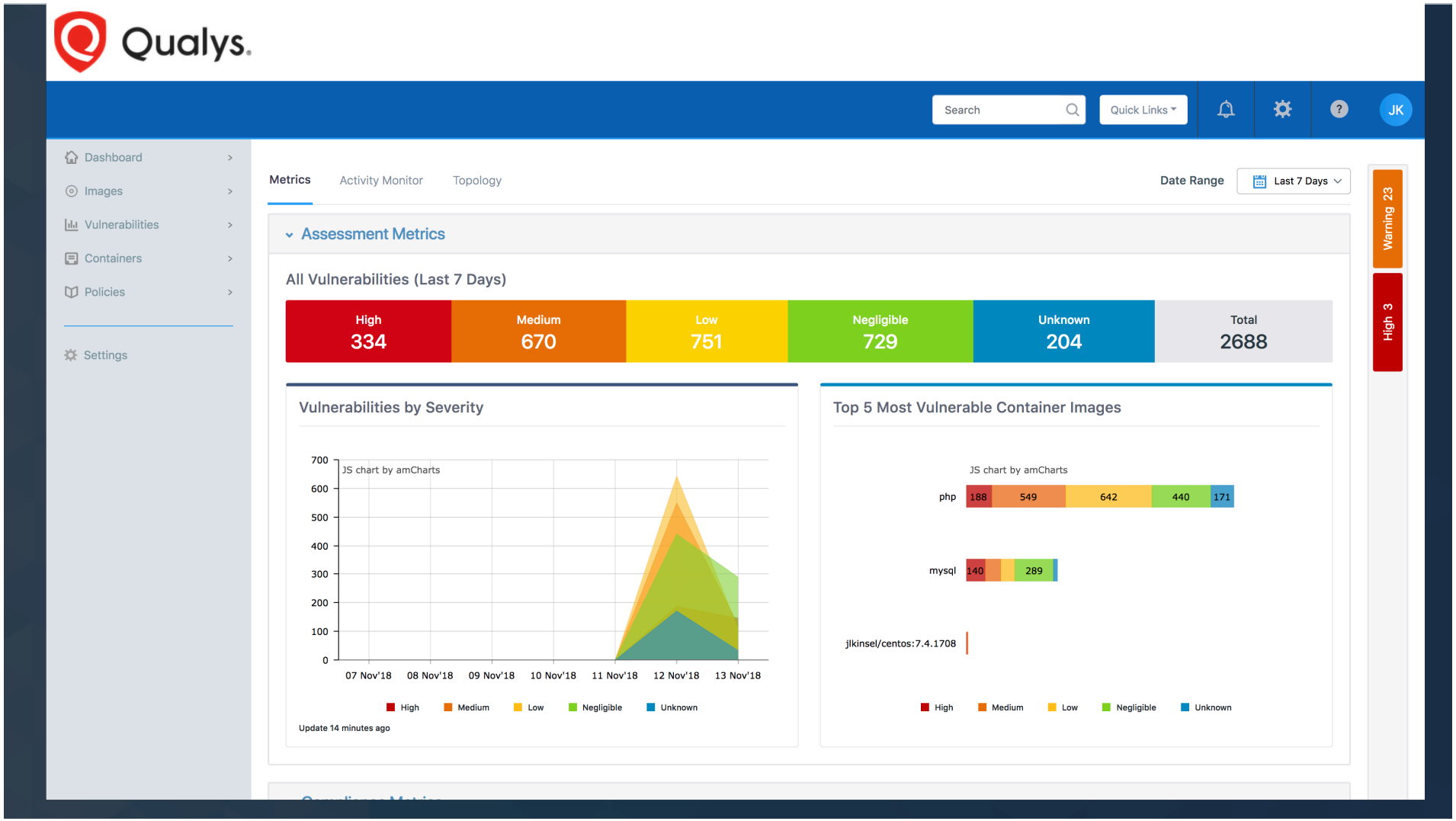
Image Details: php
Detail
Scan Date 2018-11-12T23:47:19.2Z
Scan Status done
Registry 5be9e64b9d20760001014780
Image Tags
Compliance
Layers
Compliance Sunburst
Vulnerability Sunburst
Total Vulnerabilities: 273
Search
Package
CVE
Severity
util-linux 2.29.2-1+deb9u1 CVE-2016-2779 High
tar 1.29b-1.1 CVE-2005-2541 Negligible
systemd 232-25+deb9u4 CVE-2018-6954 High
systemd 232-25+deb9u4 CVE-2018-1049 Medium
systemd 232-25+deb9u4 CVE-2013-4392 Negligible

Vulnerability Sunburst of php

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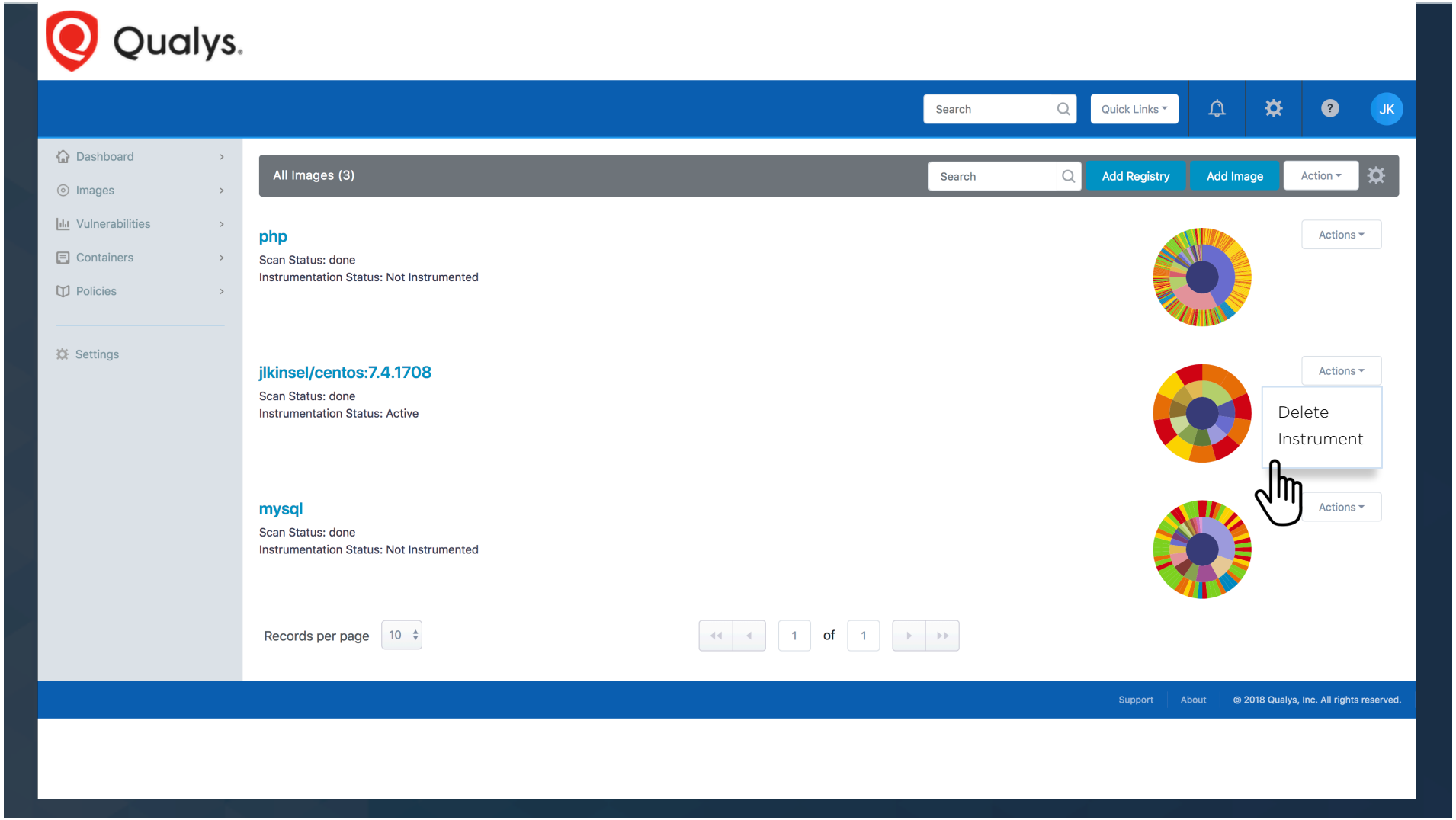
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Add Registry
Add Image
Action
php
Scan Status: done
Instrumentation Status: Not Instrumented
Actions
jlkinsel/centos:7.4.1708
Scan Status: done
Instrumentation Status: Active
Actions
Delete Instrument
mysql
Scan Status: done
Instrumentation Status: Not Instrumented
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10
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1
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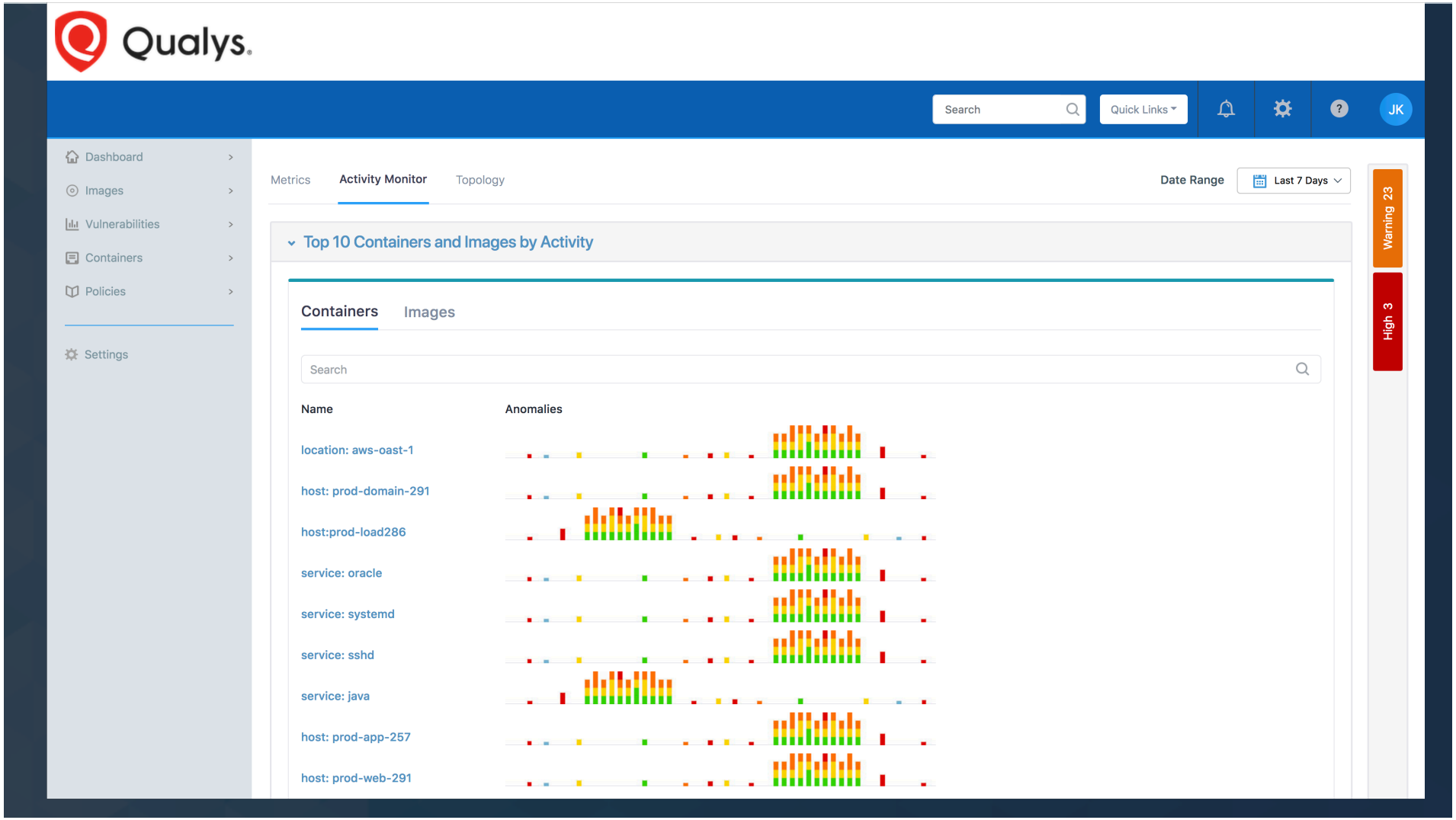
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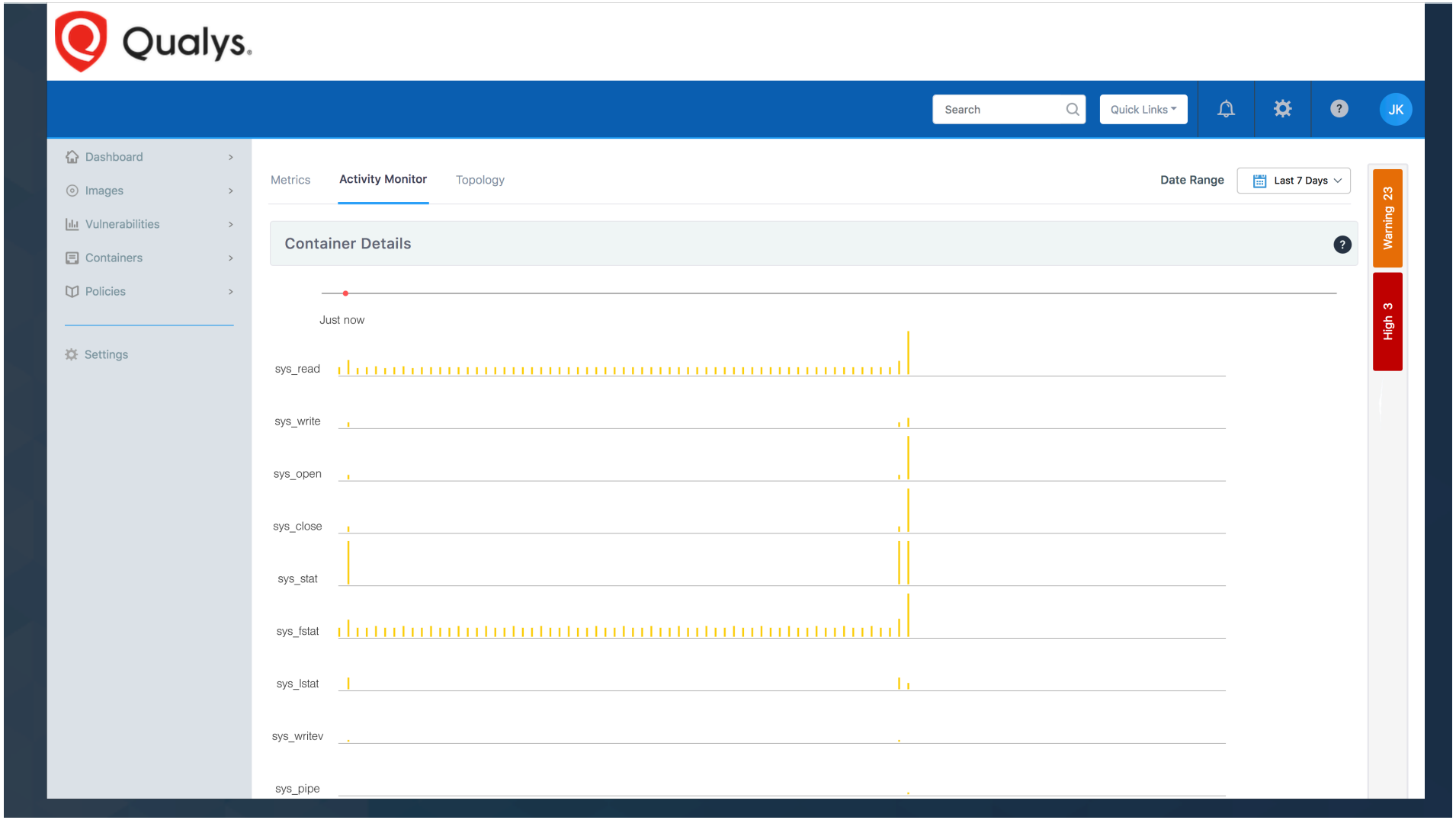
Name
Anomalies
location: aws-oast-1
host: prod-domain-291
host:prod-load286
service: oracle
service: systemd
service: sshd
service: java
host: prod-app-257
host: prod-web-291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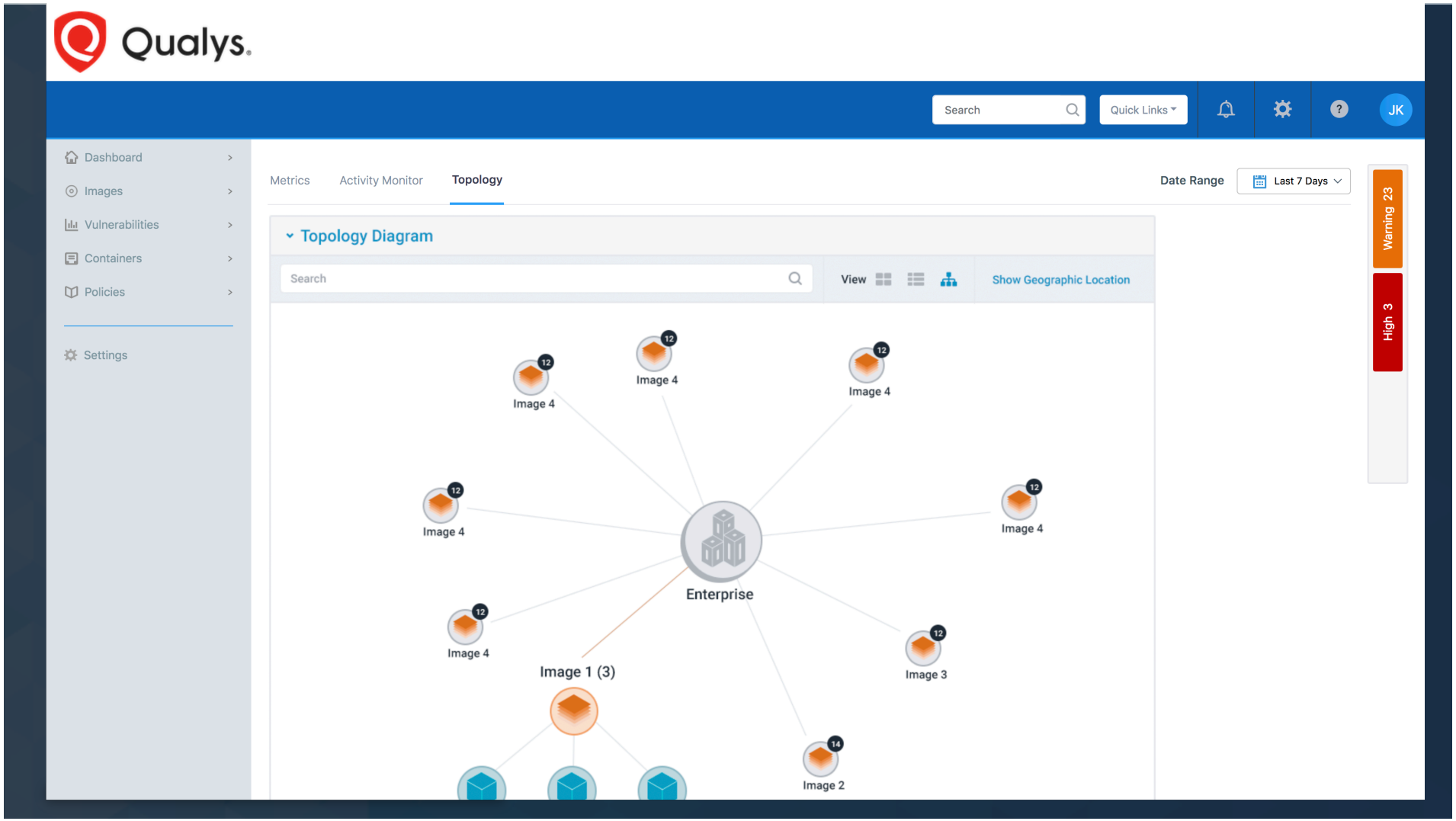
Just now
sys_read
sys_write
sys_open
sys_close
sys_stat
sys_fstat
sys_lstat
sys_writev
sys_pipe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Show Geographic Location
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Image 4
Image 4
Image 4
Image 4
Image 4
Enterprise
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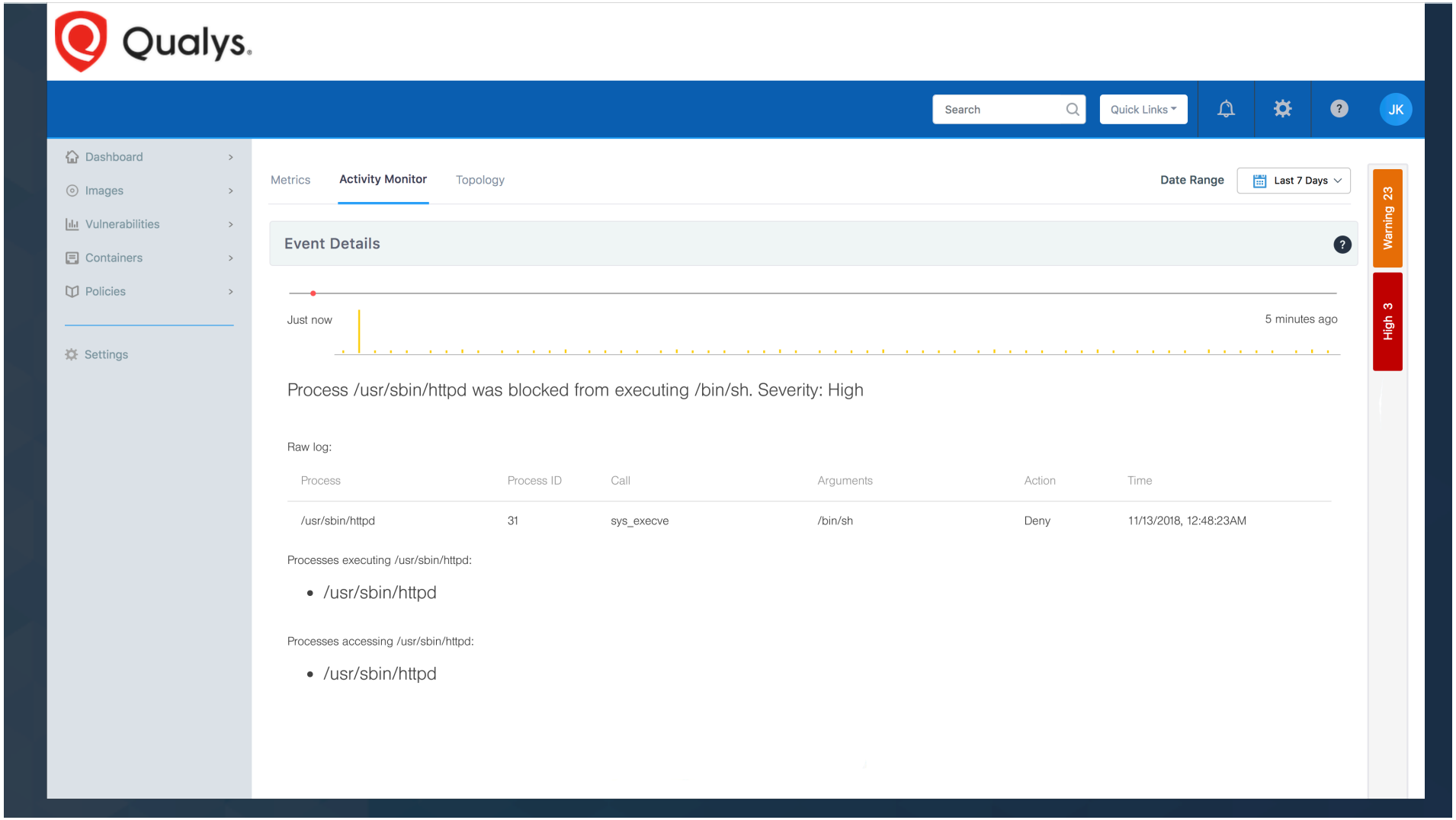
Image 3
Image 2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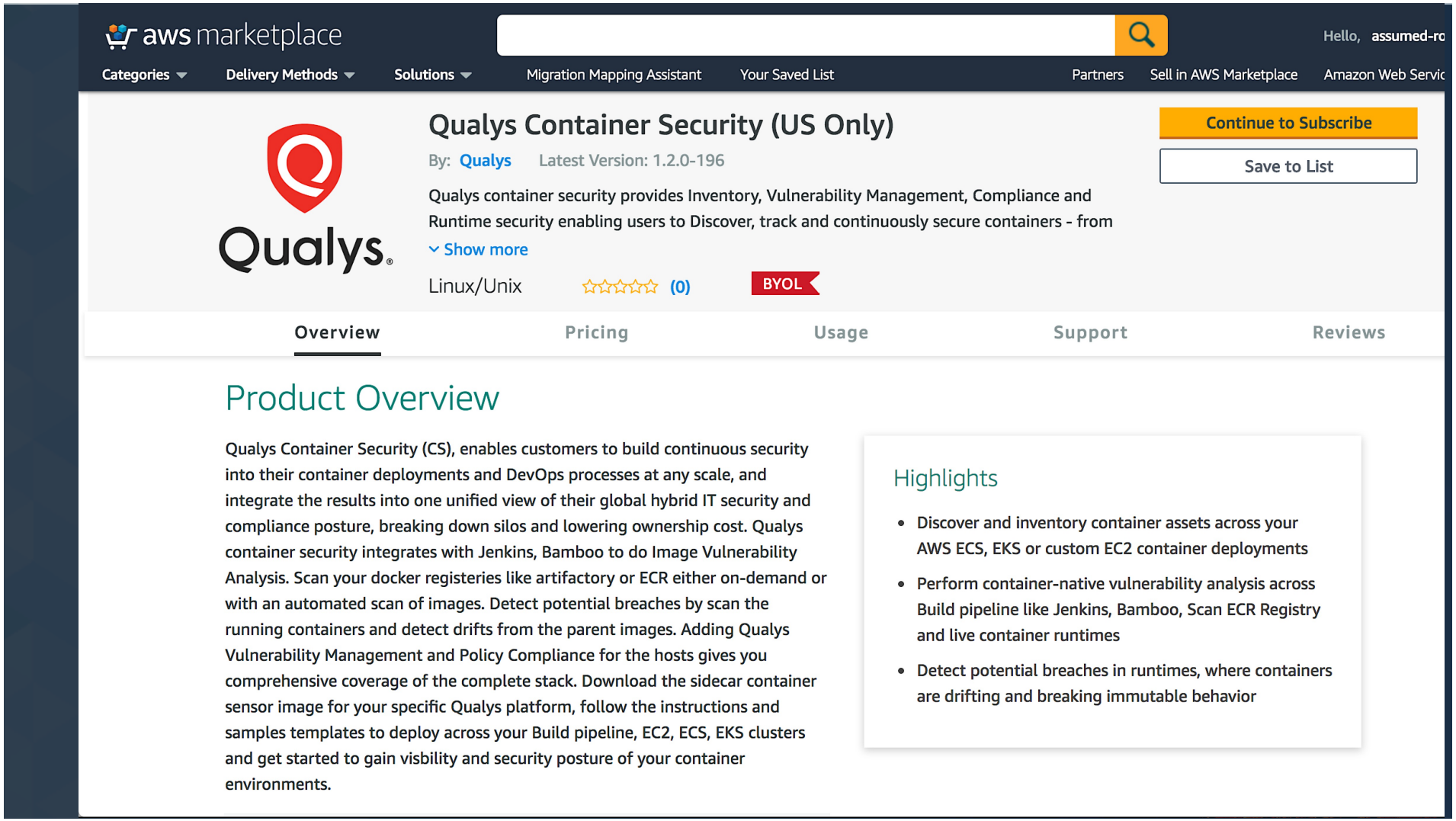
Event Details
Just now
5 minutes ago
Process /usr/sbin/httpd was blocked from executing /bin/sh. Severity: High
Raw log:
Process
Process ID
Call
Arguments
Action
Time
/usr/sbin/httpd
31
sys_execve
/bin/sh
Deny
11/13/2018, 12:48:23AM
Processes executing /usr/sbin/httpd:
/usr/sbin/httpd
Processes accessing /usr/sbin/httpd:
/usr/sbin/httpd


aws marketplace
Hello, assumed-ro
Categories
Delivery Methods
Solutions
Migration Mapping Assistant
Your Saved List
Partners
Sell in AWS Marketplace
Amazon Web Servic
Qualys Container Security (US Only)
By: Qualys
Latest Version: 1.2.0-196
Qualys container security provides Inventory, Vulnerability Management, Compliance and Runtime security enabling users to Discover, track and continuously secure containers - from
Show more
Linux/Unix
(0)
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Product Overview
Qualys Container Security (CS), enables customers to build continuous security into their container deployments and DevOps processes at any scale, and integrate the results into one unified view of their global hybrid IT security and compliance posture, breaking down silos and lowering ownership cost. Qualys container security integrates with Jenkins, Bamboo to do Image Vulnerability Analysis. Scan your docker registeries like artifactory or ECR either on-demand or with an automated scan of images. Detect potential breaches by scan the running containers and detect drifts from the parent images. Adding Qualys Vulnerability Management and Policy Compliance for the hosts gives you comprehensive coverage of the complete stack. Download the sidecar container sensor image for your specific Qualys platform, follow the instructions and samples templates to deploy across your Build pipeline, EC2, ECS, EKS clusters and get started to gain visbility and security posture of your container environments.
Highlights
Discover and inventory container assets across your AWS ECS, EKS or custom EC2 container deployments
Perform container-native vulnerability analysis across Build pipeline like Jenkins, Bamboo, Scan ECR Registry and live container runtimes
Detect potential breaches in runtimes, where containers are drifting and breaking immutable behavior

Thank You

Hari Srinivasan
hsrinivasan@qualys.com